

PROGNOSTIC DISCUSSION FOR LONG-LEAD OUTLOOKS
CLIMATE PREDICTION CENTER NCEP
NATIONAL WEATHER SERVICE WASHINGTON DC
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BASIS AND SUMMARY OF THE CURRENT LONG-LEAD OUTLOOK

THESE OUTLOOKS REFLECT THE EXPECTED U.S. CLIMATE ANOMALIES FOR WEAK TO MODERATE COLD ENSO CONDITIONS THROUGH MAM - TRENDING TO NEUTRAL BY AMJ-MJJ. TROPICAL INTRA-SEASONAL (MJO) ACTIVITY WHICH WAS STRONG EARLIER IN THE SEASON HAS DIMINISHED RECENTLY. AN ACTIVE MJO CAN INFLUENCE MID-LATITUDE CIRCULATION AND ENHANCE THE VARIABILITY IN CLIMATE ANOMALIES ON WEEKLY TO MONTHLY TIME SCALES.

THE 1961-90 BASE PERIOD MEANS ARE STILL IN USE AS CLIMATOLOGY- MAKING IT DIFFICULT TO REACH THE BELOW NORMAL TEMPERATURE CATEGORY IN MANY REGIONS AND SEASONS WHEN TODAY'S CLIMATE IS COMPARED TO THE GENERALLY COOLER CLIMATE OF THE 1960S AND 70S. THEREFORE THIS SET OF OUTLOOKS HAS A SKEW TOWARD WARMER THAN NORMAL TEMPERATURES.

1971-2000 BASE PERIOD MEANS WILL BE IMPLEMENTED BEGINNING WITH THE FORECAST ISSUED APRIL 12, 2001.

THE MAM-AMJ 2001 FORECASTS REFLECT THE U.S. CLIMATE ANOMALIES EXPECTED IN A WEAKENING ENSO COLD EVENT. STATISTICAL PREDICTIONS OF NINO 3.4 INDICATE THE POSSIBILITY OF NEUTRAL TO WEAK WARM ENSO CONDITIONS BY WINTER 2001/2002.

CURRENT ATMOSPHERIC AND OCEANIC CONDITIONS

ATMOSPHERIC AND OCEANIC INDICES OF ENSO CONTINUE TO SHOW MODERATE COLD PHASE (LA NINA) CONDITIONS. PACIFIC SSTS NEAR THE EQUATOR ARE AROUND 1 DEGREE C BELOW NORMAL SSTS FROM 160W TO 160E. THE TRADE WINDS ARE STRONGER THAN NORMAL THROUGHOUT MUCH OF THE TROPICAL PACIFIC - WHILE CONVECTION IS ENHANCED IN THE FAR WESTERN TROPICAL PACIFIC AND SUBNORMAL TO THE EAST.

THE ARCTIC OSCILLATION (AO) IS CURRENTLY IN THE POSITIVE PHASE WITH MODEST AMPLITUDE. THE POSITIVE AO CHARACTERIZED BY ABNORMAL NEGATIVE 200 MB HEIGHT ANOMALIES AT HIGH LATITUDES ALONG WITH A POLAR JET STREAM CONTRACTED NORTHWARD AND ABNORMAL POSITIVE HEIGHT ANOMALIES IN MIDDLE LATITUDES. THIS PHASE OF THE AO FOSTERS WARM TEMPERATURES OVER NORTH AMERICA WHEN IT REACHES LARGE AMPLITUDE. CURRENT FORECASTS CALL FOR CONTINUED WEAK AO AMPLITUDE FOR THE NEXT TWO WEEKS.

AS OF THIS WRITING A STRATOSPHERIC WARMING EVENT IS UNDERWAY IN NORTHERN HIGH LATITUDES. AS THIS EVENT PROPAGATES DOWNWARD TO THE TROPOSPHERE DURING THE NEXT SEVERAL WEEKS IT MAY CAUSE THE HIGH LATITUDE JET TO SHIFT SOUTHWARD - POSSIBLY CHANGING THE PHASE OF THE AO AT LEAST TEMPORARILY TO THE NEGATIVE PHASE. THIS COULD TAKE UP TO SEVERAL WEEKS TO OCCUR IF IT HAPPENS AT ALL.

PROGNOSTIC DISCUSSION OF SST FORECASTS

THE NCEP DYNAMIC AND STATISTICAL MODELS (THE COUPLED MODEL, CONSTRUCTED ANALOG (CA) METHOD AND CANONICAL CORRELATION ANALYSIS (CCA)) CONTINUE TO PREDICT SLIGHTLY BELOW NORMAL NINO 3.4 REGION (5N TO 5S AND 120-170W) SSTS THROUGH MAM 2001. ALL MODELS CROSS ZERO ANOMALY BETWEEN MAM AND AMJ AND THEN FORECAST VARYING DEGREES OF POSITIVE ANOMALIES THROUGH FMA 2002.

THE CA SST FORECAST HOLDS TEMPERATURES CLOSE TO NEAR-NORMAL THROUGH THE END OF THE SUMMER AND THEN WARMS SLIGHTLY BY THE END OF THE YEAR. THE CCA BEHAVES LIKE THE CA BUT IS SLIGHTLY WARMER THROUGH MOST OF THIS YEAR BEFORE CONVERGING TO THE CA EARLY IN 2002. THE COUPLED MODEL INDICATES A WEAK WARM PHASE OF ENSO MAY DEVELOP BY LATE SUMMER BUT THEN ITS FORECAST COOLS SLIGHTLY AND CONVERGES WITH THE CCA BY WINTER AND A POSITIVE ANOMALY OF 0.5 DEGREES C. A CONSOLIDATION FORECAST BASED ON THE PAST PERFORMANCE OF THE THREE MODELS PREDICTS THAT

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NINO 3.4 SST ANOMALIES WILL AVERAGE SLIGHTLY BELOW ZERO IN MAM - INCREASE TO ZERO BY AMJ AND THEN CONTINUE TO INCREASE BEFORE GENERALLY LEVELING OFF AT AROUND 0.5 DEGREES C DURING THE SECOND HALF OF 2001.

FORECASTS FROM THESE TOOLS FOR NEXT SUMMER HAVE BEEN TRENDING TOWARD COOLER TEMPERATURES AS THE MODELS ARE UPDATED WITH MORE RECENT DATA EACH MONTH - SO IT IS LIKELY THAT THE BEST FORECAST FOR ENSO FOR NEXT SUMMER AND INTO THE FALL WOULD BE FOR THE OBSERVATION TO BE ON THE LOWER END OF THE FORECAST SPREAD - SO EITHER NEUTRAL OR WEAK WARM ENSO CONDITIONS IS OUR CURRENT CHOICE FOR WINTER 2001-2002 SST CONDITIONS IN THE TROPICAL PACIFIC.

PROGNOSTIC TOOLS USED FOR U.S. TEMPERATURE AND PRECIPITATION OUTLOOK

THE CCA - OCN AND SMLR FORECASTS WERE CONSULTED AT ALL LEAD TIMES. THE CMP FORECAST CONSIDERABLY INFLUENCED THE FORECAST FOR THE FIRST THREE LEAD TIMES. COLD EVENT ENSO COMPOSITES SUPPORT THE MAM AND AMJ OUTLOOKS. AT LONGER LEADS THE OCN WAS WEIGHTED MORE HEAVILY.

PROGNOSTIC DISCUSSION OF OUTLOOKS - MAM 2001 TO MAM 2002.

THE FORECAST FOR MAM 2001 CALLS FOR WARMER THAN NORMAL TEMPERATURES ALONG THE SOUTHERN TIER OF STATES. ALTHOUGH BELOW NORMAL TEMPERATURES ARE INDICATED FOR THE NORTHWESTERN STATES AND FAR NORTHERN PLAINS BY BOTH CMP AND CCA - THERE IS A STRONG OCN SIGNAL FOR ABOVE - SO CL IS PREDICTED THERE.

CCA - CMP AND COLD EVENT COMPOSITES PREDICT ABOVE NORMAL TEMPERATURES OVER THE SOUTHWESTERN STATES - TEXAS - ALONG THE GULF COAST AND OVER FLORIDA DURING MAM AND AMJ.

DURING MAM OCN AND CMP FAVOR ABOVE NORMAL TEMPERATURE FOR WESTERN ALASKA. THE FORECAST FOR ABNORMALLY DRY CONDITIONS OVER THE SOUTHEAST AND THE SOUTHWEST REFLECT THE LA NINA COMPOSITES AND CMP FORECAST - AS WELL AS INDICATIONS FROM BOTH CCA AND SMLR. ABOVE MEDIAN PRECIPITATION FROM THE UPPER MISSISSIPPI VALLEY TO NEW ENGLAND IS PREDICTED BY THE CMP AND LA NINA COMPOSITES. CMP ALSO PREDICTS ABOVE MEDIAN PRECIPITATION FOR THE ALEUTIONS AND ALASKAN PANHANDLE. ABOVE MEDIAN PRECIPITATION IN THE NORTHWEST IS FROM CMP AND LA NINA COMPOSITES.

THE AMJ FORECAST IS A COMPROMISE BETWEEN THE EFFECTS OF AN EXPECTED DWINDLING LA NINA AND THE CMP. THESE ARE IN AGREEMENT ON THE MAJOR FEATURES PREDICTED INCLUDING WARMTH ACROSS THE SOUTHERN U.S. - CONTINUED ABNORMAL DRYNESS IN FLORIDA AND ABNORMALLY WET CONDITIONS IN THE NORTHWEST AND GREAT LAKES TO THE NORTHEAST.

WITH ENSO CONDITIONS PREDICTED TO BE NEAR-NEUTRAL FOR MJJ THROUGH FALL - THE FORECAST FOR THE SUMMER AND FALL LARGELY REFLECTS THE LONG TERM TRENDS TOWARD ABOVE NORMAL TEMPERATURES OVER THE SOUTHERN HALF OF THE LOWER 48 STATES.

OCN INDICATES STRONG WARMING TRENDS IN ALASKA IN THE SPRING AND EARLY SUMMER. THIS IS SUPPORTED BY THE CCA PREDICTION FOR THE INTERIOR AREAS BY JJA. PRECIPITATION TRENDS FAVOR RELATIVELY WET SPRING AND EARLY SUMMER CONDITIONS IN THE PACIFIC NORTHWEST -AND THIS IS SUPPORTED BY CMP AND CCA. WET CONDITIONS ARE PREDICTED IN THE INTERIOR SOUTHWEST BASED ON THE POSSIBLE LAGGED IMPACT OF THE LA NINA DURING LATE WINTER ON THE GLOBAL MONSOON CIRCULATION.

WARM SEASON PROBABILITIES FOR ABOVE NORMAL TEMPERATURES ARE HIGHEST IN THE SOUTH AND SOUTHWEST WHERE YEAR-TO-YEAR VARIABILITY IS SMALL IN RELATION TO THE TRENDS. CLIMATOLOGICAL ODDS ARE FAVORED OVER MOST OF THE NORTHERN AND CENTRAL PARTS OF THE COUNTRY EXCEPT FOR PORTIONS OF THE MIDWEST IN JJA AND JAS WHEN OCN SLIGHTLY FAVORS BELOW NORMAL. POSITIVE TEMPERATURE ANOMALIES FROM OCN EXTEND NORTH ALONG THE EASTERN SEABOARD DURING MJJ AND JJA.

THE FORECAST FOR JAS 2001 TROUGH OND 2001 IS FOR ABNORMAL WARMTH FOR MUCH OF THE

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WEST - BASED ON TRENDS - AND IN PORTIONS OF THE SOUTHERN STATES - DIMINISHING FROM JAS TO OND. OCN INDICATES BELOW MEDIAN PRECIPITATION IN JAS AND ALSO FOR PORTIONS OF THE PACIFIC NORTHWEST AND THE GREAT BASIN - WITH SOME WEAK SUPPORT FROM CCA. THE SOUTHWEST MONSOON IS EXPECTED TO BE HEAVIER THAN NORMAL BASED ON THE RELATIONSHIP BETWEEN IT AND A PRECEDING LA NINA WINTER.

THE FORECAST FOR OND 2001/02 THROUGH MAM 2002 REFLECTS ENHANCED LIKELIHOOD OF NEUTRAL OR WEAK WARM EVENT CONDITIONS. THIS INCREASES THE LIKELIHOOD OF ABOVE NORMAL TEMPERATURES OVER MUCH OF THE NORTHERN AND WESTERN PORTIONS OF THE COUNTRY. CCA AND OCN PREDICT WARMER THAN NORMAL IN SOME EXTREME SOUTHERN AREAS. OCN PREDICTS WARMER THAN NORMAL OVER MUCH OF THE EASTERN HALF OF THE NATION AND PORTIONS OF THE SOUTHWEST DURING DJF 2001/2002.

LIKELIKE THE CHANCE RISES FOR ABOVE MEDIAN PRECIPITATION OVER PORTIONS OF THE SOUTHERN U.S. - HOWEVER THE PROBABILITY SHIFT IS VERY SMALL - INDICATING A HIGH DEGREE OF UNCERTAINTY. OCN DOES INDICATE ABOVE MEDIAN PRECIPITATION FOR PORTIONS OF THE PLAINS AND TEXAS FOR OND 2001 THROUGH DJF 2001/2002.

FOR A DESCRIPTION OF THE STANDARD FORECAST TOOLS - THEIR SKILL - AND THE FORECAST FORMAT PLEASE SEE OUR WEB PAGE AT:
[HTTP://WWW.CPC.NCEP.NOAA.GOV/PRODUCTS/PREDICTIONS/MULTI-SEASON/13_SEASONAL_OUTLOOKS/TOOLS](http://www.cpc.ncep.noaa.gov/products/predictions/multi-season/13_seasonal_outlooks/tools)

NOTE - THESE CLIMATE OUTLOOKS ARE INTENDED FOR USE PRIOR TO THE START OF THEIR VALID PERIODS. WITHIN ANY GIVEN VALID PERIOD OBSERVATIONS AND SHORT AND MEDIUM RANGE FORECASTS SHOULD BE CONSULTED. THIS SET OF OUTLOOKS WILL BE SUPERSEDED BY THE ISSUANCE OF THE NEW SET NEXT MONTH ON THURSDAY MARCH 15 2001.

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